

How to increase memory for Fortify to do translation



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Question

How do I resolve memory errors when running Fortify?

Answer

There are different types of memory errors that Fortify may report:

- Fortify may fail to start up with an error along the lines of:

```
Error occurred during initialization of VM
Could not reserve enough space for object
heap
Error: Could not create the Java Virtual
Machine.
Error: A fatal exception has occurred.
Program will exit.
```

- Errors or warnings may be reported during the translation and scan which report low memory problems. Please see the technical note [How to view error messages reported by Fortify](#) for more information on viewing the error messages.
 - Some of these warnings indicate performance problems, but do not affect the reported results. Warnings such as "Scan progress is slow due to [critically] low memory" fall into this category.
 - Others indicate that there was not enough memory to complete the analysis and must be fixed. Errors such as "There is not enough memory available to complete analysis" fall into this category.

The solution to all of these issues is to increase the amount of memory that gets allocated for Fortify to do the translation and scan phases. This is done using the `-Xmx<memory limit>` option on the command line. For example, the memory limit can be increased to 3 gigabytes by adding the `-Xmx3G` or `-Xmx3000M` option to the sourceanalyzer command line. There is no way to calculate an appropriate memory value, so you'll need to experiment with until you get a value that works.

The Fortify SCA User Guide gives the following information for the `-Xmx` option:

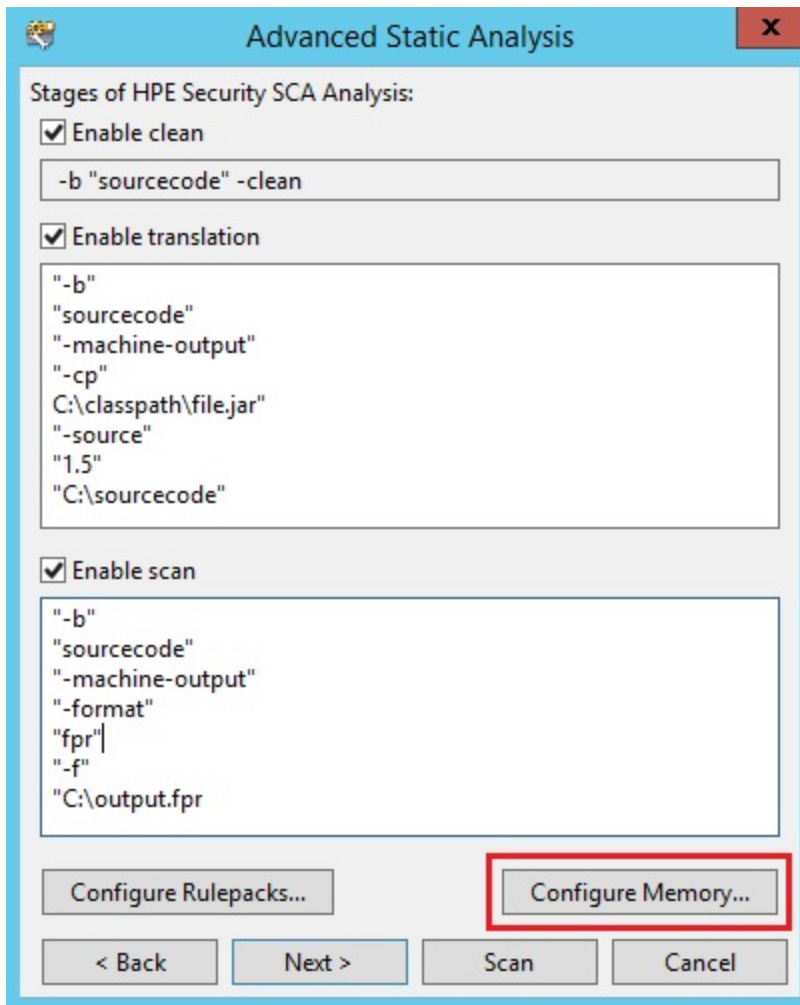
"Specifies the maximum amount of memory SCA uses. By default, it uses up to 1800 MB of memory, which is insufficient for large code bases. When specifying this option, ensure that you do not allocate more memory than is physically available, because this degrades performance. As a guideline, assuming no other memory intensive processes are running, do not allocate more than 2/3 of the available memory."

Configuring Memory Settings

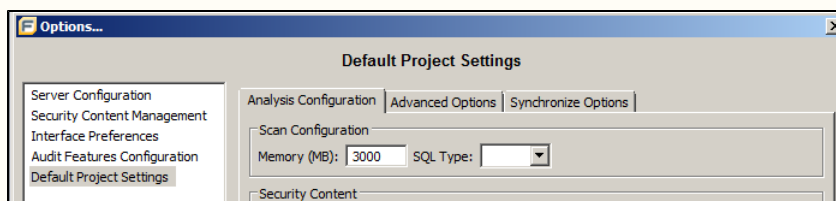
When scanning with the Audit Workbench, you can modify memory settings by using the above command-line options, or you can click "Configure Memory" on the following Advanced Scan screen:

HPE Fortify Version	4.00 and later
Programming Language	<input type="checkbox"/> C/C++ <input checked="" type="checkbox"/> .NET <input type="checkbox"/> Java <input type="checkbox"/> Objective-C <input type="checkbox"/> Other
Fortify Audit Workbench	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Fortify IDE Plugin	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Fortify Component	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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In the Visual Studio and Eclipse IDEs, memory values may be set using the Options menu. Open the Options dialog by selecting HPE Fortify -> Options from the menu. Then select "Default Project Settings" and the "Analysis Configuration" tab. There you can set the memory limit in the text box labeled "Memory (MB)". The following example shows setting the memory limit to 3GB:



References

- HPE Fortify Static Code Analyzer User Guide, Chapter 13: Command Line Interface